

Preface

Microbiology is an inherently valuable, fascinating branch and useful discipline of biological sciences with its own orientation and emphasis that offers an intimate view of an invisible world.

Microorganisms have promising potential in different fields as reflected in their diversity and unique characteristics. The role of microbes in the generation of biological resources is immense and has been well appreciated. The observation made by the renowned microbiologist, Louis Pasteur, about 160 years ago that “Life would not remain possible in the absence of microbes” has proved “The role of infinitely small as infinitely large”. Not only natural products of microbial origin known earlier are better understood now but also newer ones are being added to the list. Their multifarious applications in all aspects of human life and environment are of immense importance.

Among several microorganisms, Eubacteria plays a very important role in our lives in recycling of organic matter, biodegradation, bioremediation and waste management and have tremendous potential in biodiscovery, soil fertility, crop protection, nutrition, etc. Pathogens are of concern to human health as they can cause fatalities. But, despite their recognized importance less than 5% of the world’s Eubacteria are on record, and their meaningful exploitation is possible only if the perspectives of the cultures are properly documented with readily accessible information.

India is immensely rich in its diversity of biological forms, which includes all living organisms from ecological niches like terrestrial, marine, and other aquatic ecosystems. These niches provide natural enrichment for an impressively large array of microorganisms, and are an important repository having unique microbial flora suitable to their unique and highly variable environment. However, as stated by Edward Wilson, “Biodiversity is the earth’s most important but least utilized resource”.

Coastal zones of Goa have been exclusively used for agriculture, shell fishing, and traditional fishing and need to be explored for isolation and characterization of Eubacteria. Broad-based studies of characterization and the promising potential of Eubacteria from coastal econiches of Goa have been investigated and explored in research laboratory under the able guidance of reputed microbiologists of India,

Prof. Saroj Bhosle, Goa University, Taleigao Plateau, Goa. She has been working in this field for more than three decades with commitment, dedication, and innovative approach.

I strongly believe that the research we plan and perform must yield results that are of global significance in relevance and applicability. For this purpose, I requested my co-researchers to contribute articles for this book. “Bioprospects of Coastal Eubacteria” therefore, is an attempt to survey and consolidate the research on the potentials of Eubacteria mostly isolated from coastal ecosystems of Goa on varied microbiological aspects. It is not intended to be an exhaustive catalog of everything that has been done. Rather, it is an attempt to give the reader an overview of potentials of Eubacteria and an insight into research that can be oriented in different fields of applications in microbiology and biotechnology.

The chapters put together in this book, written by experts in their own field, will hopefully provide useful insights on ecology and applied aspects of Eubacteria from diverse coastal ecosystems of Goa and open new avenues of research for scientific communities. Written in a lucid language and illustrative manner for easy understanding, this book will benefit graduates, postgraduates, and researchers interested in the field of microbiology and scientists working at different levels and disciplines.

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Ecosystems of Goa

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